

Claims

1. A wheel (10), having a main body (12) and at least one reinforcing structure (14) which increases the strength of the wheel (10), **characterized in that** the reinforcing structure (14) is at least partially integrated inside the main body (12).
2. The wheel as claimed in claim 1, **characterized in that** the reinforcing structure (14) is at least partially integrally cast in the main body (12).
3. The wheel as claimed in claim 1 or 2, **characterized in that** the main body (12) has a nave component (16) and a blade component (18), the reinforcing structure (14) being arranged in the nave component (16) and/or in the blade component (18).
4. The wheel as claimed in any one of the preceding claims, **characterized in that** the reinforcing structure (14) takes the form of a prefabricated reinforcing element (20).
5. The wheel as claimed in claim 4, **characterized in that** the reinforcing element (20) takes the form of a strengthening tube (22), which is integrated in the nave component (16) of the wheel (10).
6. The wheel as claimed in any one of the preceding claims, **characterized in that** the reinforcing structure (14) has a mesh inlay (24).
7. The wheel as claimed in claim 6, **characterized in that** the mesh inlay (24) comprises a plurality of mesh components

(26, 28, 30) extending in a radial direction and/or in an axial direction and/or in a peripheral direction in relation to the wheel (10).

8. The wheel as claimed in claim 6 or 7, **characterized in that** the mesh inlay (24) is arranged, at least in part, immediately below the surface (31) of the main body (12).
9. The wheel as claimed in any one of claims 6 to 8, **characterized in that** the mesh inlay (24) is arranged at least partially at the surface (31) of the main body (12).
10. The wheel as claimed in any one of the preceding claims, **characterized in that** the reinforcing structure (14) additionally has a reinforcing component (32) arranged entirely externally in relation to the main body (12) and fixed thereto.
11. The wheel as claimed in claim 10, **characterized in that** the external reinforcing component (32), as a stiffening element (34) at least partially reproducing the blade geometry, is provided with an at least partially integrated inlay structure (36).
12. The wheel as claimed in claim 10, **characterized in that** the external reinforcing component (32) takes the form of a high-strength circular banding unit.
13. The wheel as claimed in any one of the preceding claims, **characterized in that** the reinforcing structure (14) is prestressed under a pretensile stress serving to increase the compressive strength.

14. The wheel as claimed in any one of the preceding claims, characterized in that the reinforcing structure (14) has a multiplicity of reinforcing fibers (38) freely distributed in the main body (12).
15. The wheel as claimed in any one of the preceding claims, characterized in that the reinforcing structure (14) has high-strength metal fibers and/or carbon fibers and/or glass fibers.
16. The wheel as claimed in any one of the preceding claims, characterized in that the main body (12) is manufactured using aluminum as basic material.
17. The wheel as claimed in any one of the preceding claims, characterized in that it is a compressor wheel and in particular a compressor wheel for an exhaust-gas turbocharger of a motor vehicle.